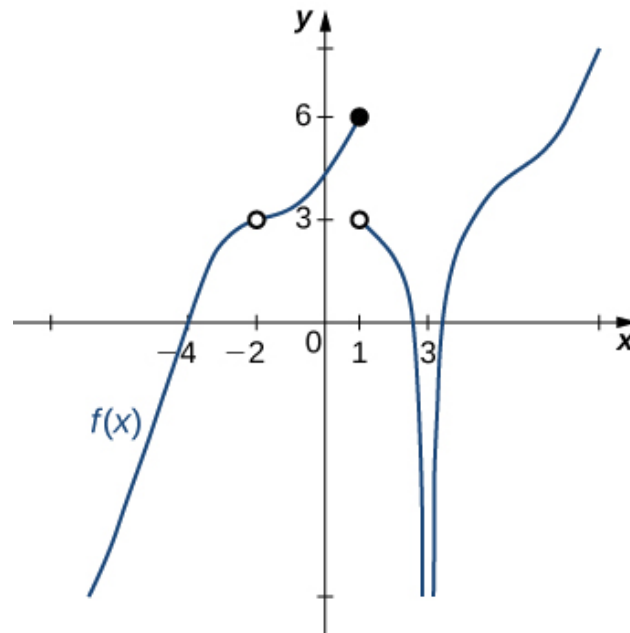


1. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. -2
- B. 1
- C. 3
- D. Multiple a make the statement true.
- E. No a make the statement true.

2. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 7^+} \frac{-5}{(x+7)^4} + 7$$

- A. ∞
- B. $f(7)$
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

3. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 8} \frac{\sqrt{7x - 7} - 7}{5x - 40}$$

- A. 0.071
 - B. 0.100
 - C. ∞
 - D. 0.014
 - E. None of the above
-

4. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 5} \frac{\sqrt{8x - 4} - 6}{6x - 30}$$

- A. ∞
 - B. 0.111
 - C. 0.083
 - D. 0.471
 - E. None of the above
-

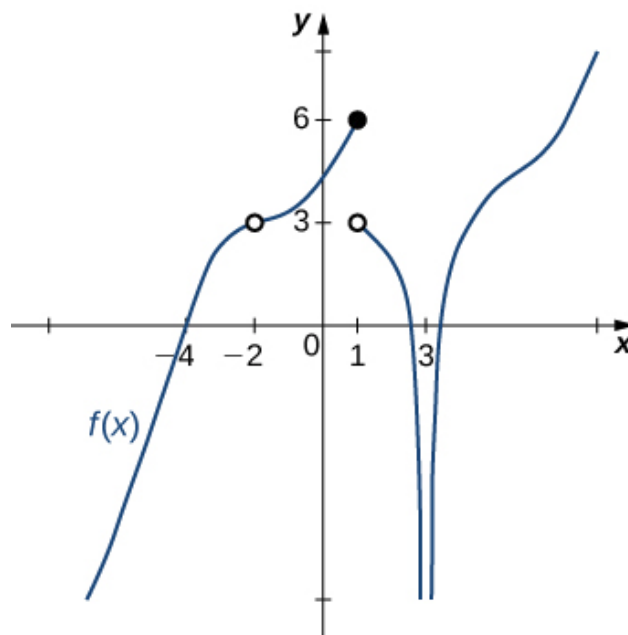
5. Based on the information below, which of the following statements is always true?

$f(x)$ approaches 17.923 as x approaches 7.

- A. $f(17)$ is close to or exactly 7
- B. $f(7) = 17$
- C. $f(7)$ is close to or exactly 17
- D. $f(17) = 7$

E. None of the above are always true.

6. For the graph below, evaluate the limit: $\lim_{x \rightarrow -4} f(x)$.



- A. -6
- B. 0
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

7. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 1^-} \frac{7}{(x+1)^7} + 8$$

- A. $f(1)$
- B. ∞
- C. $-\infty$
- D. The limit does not exist

E. None of the above

-
8. Based on the information below, which of the following statements is always true?

As x approaches ∞ , $f(x)$ approaches 9.495.

- A. $f(x)$ is close to or exactly 9.495 when x is large enough.
- B. $f(x)$ is undefined when x is large enough.
- C. $f(x)$ is close to or exactly ∞ when x is large enough.
- D. x is undefined when $f(x)$ is large enough.
- E. None of the above are always true.

-
9. To estimate the one-sided limit of the function below as x approaches 4 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{4}{x} - 1}{x - 4}$$

- A. {4.0000, 3.9000, 3.9900, 3.9990}
- B. {3.9000, 3.9900, 4.0100, 4.1000}
- C. {4.0000, 4.1000, 4.0100, 4.0010}
- D. {3.9000, 3.9900, 3.9990, 3.9999}
- E. {4.1000, 4.0100, 4.0010, 4.0001}

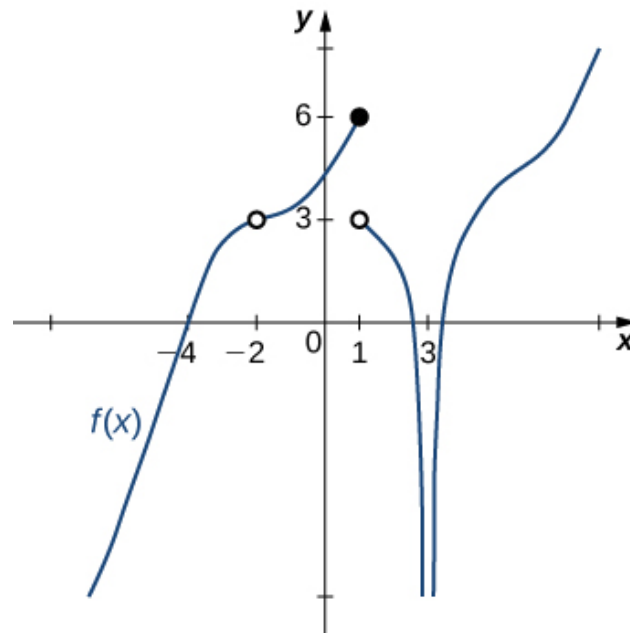
-
10. To estimate the one-sided limit of the function below as x approaches 4 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{4}{x} - 1}{x - 4}$$

- A. {4.1000, 4.0100, 4.0010, 4.0001}
- B. {3.9000, 3.9900, 4.0100, 4.1000}

- C. $\{4.0000, 3.9000, 3.9900, 3.9990\}$
- D. $\{4.0000, 4.1000, 4.0100, 4.0010\}$
- E. $\{3.9000, 3.9900, 3.9990, 3.9999\}$

11. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. -2
- B. 1
- C. 3
- D. Multiple a make the statement true.
- E. No a make the statement true.

12. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 8^+} \frac{-4}{(x + 8)^4} + 6$$

- A. ∞

- B. $f(8)$
- C. $-\infty$
- D. The limit does not exist
- E. None of the above

13. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 5} \frac{\sqrt{6x - 14} - 4}{7x - 35}$$

- A. ∞
- B. 0.350
- C. 0.018
- D. 0.125
- E. None of the above

14. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 6} \frac{\sqrt{6x - 20} - 4}{5x - 30}$$

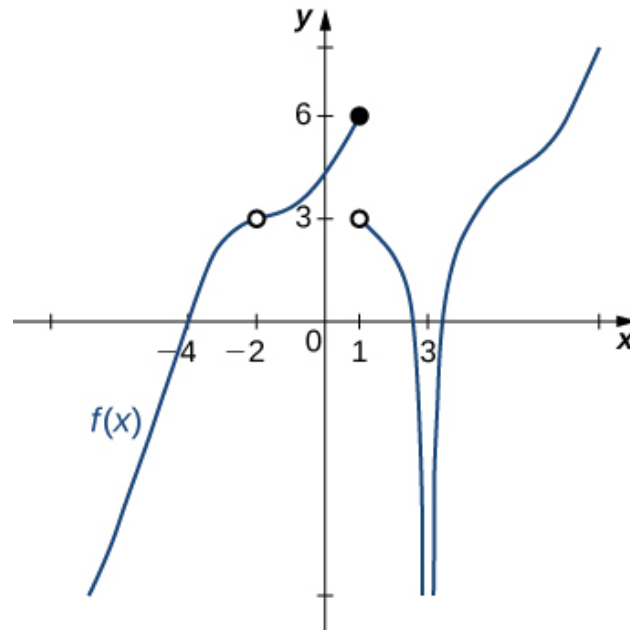
- A. 0.125
- B. 0.025
- C. 0.490
- D. ∞
- E. None of the above

15. Based on the information below, which of the following statements is always true?

$f(x)$ approaches 4.192 as x approaches 1.

- A. $f(1)$ is close to or exactly 4
- B. $f(4)$ is close to or exactly 1
- C. $f(4) = 1$
- D. $f(1) = 4$
- E. None of the above are always true.

16. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. 3
- B. 1
- C. -2
- D. Multiple a make the statement true.
- E. No a make the statement true.

17. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow -1^+} \frac{6}{(x+1)^4} + 7$$

- A. $f(-1)$
 - B. $-\infty$
 - C. ∞
 - D. The limit does not exist
 - E. None of the above
-

18. Based on the information below, which of the following statements is always true?

As x approaches 0, $f(x)$ approaches 15.316.

- A. $f(x)$ is close to or exactly 0 when x is close to 15.316
 - B. $f(x) = 0$ when x is close to 15.316
 - C. $f(x)$ is close to or exactly 15.316 when x is close to 0
 - D. $f(x) = 15.316$ when x is close to 0
 - E. None of the above are always true.
-

19. To estimate the one-sided limit of the function below as x approaches 5 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{5}{x} - 1}{x - 5}$$

- A. $\{4.9000, 4.9900, 4.9990, 4.9999\}$
- B. $\{5.0000, 5.1000, 5.0100, 5.0010\}$
- C. $\{5.0000, 4.9000, 4.9900, 4.9990\}$
- D. $\{4.9000, 4.9900, 5.0100, 5.1000\}$

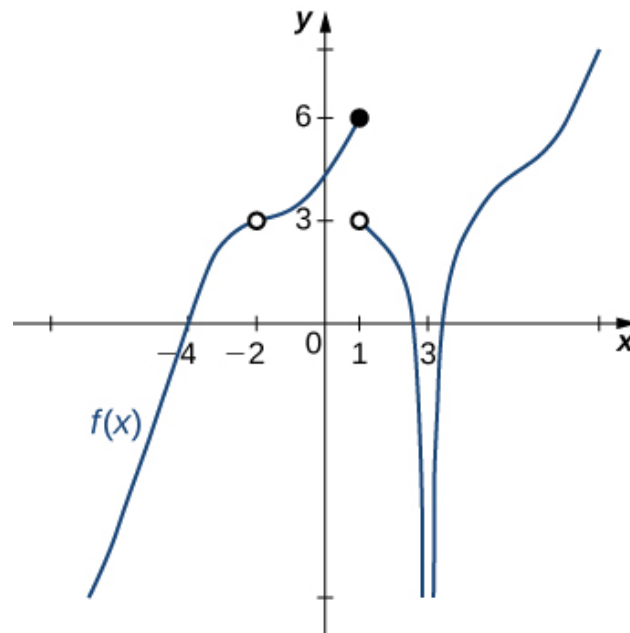
E. $\{5.1000, 5.0100, 5.0010, 5.0001\}$

20. To estimate the one-sided limit of the function below as x approaches 6 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{6}{x} - 1}{x - 6}$$

- A. $\{5.9000, 5.9900, 6.0100, 6.1000\}$
 B. $\{6.1000, 6.0100, 6.0010, 6.0001\}$
 C. $\{6.0000, 6.1000, 6.0100, 6.0010\}$
 D. $\{6.0000, 5.9000, 5.9900, 5.9990\}$
 E. $\{5.9000, 5.9900, 5.9990, 5.9999\}$

21. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. 1
 B. -2

- C. 3
 - D. Multiple a make the statement true.
 - E. No a make the statement true.
-

22. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 2^-} \frac{8}{(x+2)^3} + 7$$

- A. ∞
 - B. $f(2)$
 - C. $-\infty$
 - D. The limit does not exist
 - E. None of the above
-

23. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 5} \frac{\sqrt{9x-9} - 6}{3x-15}$$

- A. ∞
 - B. 0.028
 - C. 0.083
 - D. 1.000
 - E. None of the above
-

24. Evaluate the limit below, if possible.

$$\lim_{x \rightarrow 9} \frac{\sqrt{5x-20} - 5}{9x-81}$$

- A. 0.100

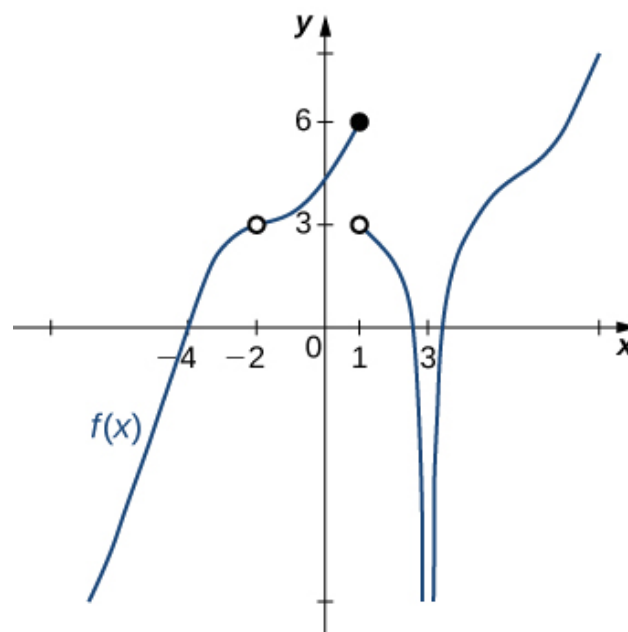
- B. ∞
- C. 0.248
- D. 0.056
- E. None of the above

25. Based on the information below, which of the following statements is always true?

As x approaches 7, $f(x)$ approaches 5.372.

- A. $f(7)$ is close to or exactly 5
- B. $f(5) = 7$
- C. $f(5)$ is close to or exactly 7
- D. $f(7) = 5$
- E. None of the above are always true.

26. For the graph below, find the value(s) a that makes the statement true:
 $\lim_{x \rightarrow a} f(x)$ does not exist.



- A. 1
- B. 3
- C. -2
- D. Multiple a make the statement true.
- E. No a make the statement true.

27. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \rightarrow 8^+} \frac{-5}{(x+8)^5} + 7$$

- A. $-\infty$
- B. ∞
- C. $f(8)$
- D. The limit does not exist
- E. None of the above

28. Based on the information below, which of the following statements is always true?

$f(x)$ approaches 5.4 as x approaches 2.

- A. $f(2)$ is close to or exactly 5
- B. $f(5) = 2$
- C. $f(5)$ is close to or exactly 2
- D. $f(2) = 5$
- E. None of the above are always true.

29. To estimate the one-sided limit of the function below as x approaches 7 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{7}{x} - 1}{x - 7}$$

- A. {7.1000, 7.0100, 7.0010, 7.0001}
 - B. {7.0000, 6.9000, 6.9900, 6.9990}
 - C. {6.9000, 6.9900, 7.0100, 7.1000}
 - D. {6.9000, 6.9900, 6.9990, 6.9999}
 - E. {7.0000, 7.1000, 7.0100, 7.0010}
-

30. To estimate the one-sided limit of the function below as x approaches 9 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{9}{x} - 1}{x - 9}$$

- A. {9.0000, 9.1000, 9.0100, 9.0010}
 - B. {9.0000, 8.9000, 8.9900, 8.9990}
 - C. {8.9000, 8.9900, 8.9990, 8.9999}
 - D. {9.1000, 9.0100, 9.0010, 9.0001}
 - E. {8.9000, 8.9900, 9.0100, 9.1000}
-